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Set	Items	Description
S1	132	PASTEURELLA? AND AROA
S2	54	RD (unique items)
S3	40	S2/1994:1999
S4	14	S2 NOT S3
S5	14	TARGET - S4

?t s5/3/9

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**AVIRULENT MICROBES AND USES THEREFOR.**

**AVIRULENTE MIKROBEN UND DEREN VERWENDUNGEN.**

**MICROBES AVIRULENTS ET LEURS UTILISATIONS.**

PATENT ASSIGNEE:

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**Title: RECENT ADVANCES IN BOVINE VACCINE TECHNOLOGY**

Author(s): YANCEY RJ

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**Abstract:** A description of new commercial and experimental vaccines for viral and bacterial diseases of cattle can be broadly divided into those used for both beef and dairy cows and those used predominantly in dairy cattle. For both types of cattle, newer and experimental vaccines are directed against several of the important viral (e.g., bovine herpesvirus 1, bovine viral diarrhea virus, bovine respiratory syncytial virus, parainfluenza type 3, and foot-and-mouth disease virus) and bacterial pathogens (e.g., *Pasteurella* spp., *Haemophilus somnus*). The viral vaccines include gene-deleted, modified live, subunit, and peptide antigens. Newer bacterial vaccines, particularly those for *Pasteurella* spp., are composed of either modified-live vaccines or bacterins supplemented with toxoid or surface antigens. *Haemophilus somnus* vaccine research has concentrated mainly on defining unique surface antigens. Novel dairy cow vaccines would include the lipopolysaccharide-core (J5) antigen approach, which has been used for successful immunization against coliform mastitis. Core antigen

vaccines also have reduced calf mortality from Gram-negative pathogens. Staphylococcal mastitis vaccines that contain capsular antigens, toxoids, or the staphylococcal fibronectin receptor are of active research interest. Vaccines against mastitis induced by Streptococcus agalactiae and Streptococcus uberis also are areas of intensive research. Delivery of multiple subunit antigens with optimal immune response induction has led to the investigation of attenuated heterologous viral and bacterial expression vectors such as bovine herpesvirus 1, vaccinia, and Salmonella spp. This discussion also demonstrates that molecular biology is being used to advance bovine vaccine technology.

Descriptors--Author Keywords: VACCINES ; DISEASE ; ANTIGENS ; MASTITIS  
 Identifiers--KeyWords Plus: RESPIRATORY SYNCYTIAL VIRUS; AROMATIC-DEPENDENT SALMONELLA; CHIMERIC FG GLYCOPROTEIN; **PASTEURELLA** -HAEMOLYTICA VACCINE; CLINICAL COLIFORM MASTITIS; HEMOPHILUS-SOMNUS BACTERIN; VIRAL DIARRHEA VIRUS; AUREUS GROWN-INVITRO; MOUTH-DISEASE VIRUS; SERUM-SOFT AGAR

Research Fronts: 91-6536 003 (LIVE ATTENUATED SALMONELLA VACCINES; ORAL IMMUNIZATION; **AROA** STRAIN; VACCINATION OF CHICKENS)  
 91-1497 002 (BOVINE HERPESVIRUS TYPE-4; ISCOM OF BHV-1 ENVELOPE GLYCOPROTEINS PROTECTED CALVES; SIMIAN AGENT-8)  
 91-1620 001 (BOVINE VIRAL DIARRHEA VIRUS; CATTLE PERSISTENTLY INFECTED; POLYMERASE CHAIN-REACTION ASSAY)  
 91-2132 001 (FOOT-AND-MOUTH-DISEASE VIRUS; CAPSID PROTEIN VP1; CONFORMATIONALLY RESTRICTED B-CELL EPITOPES ELICITS NEUTRALIZING ANTISERA)  
 91-2839 001 (CLINICAL MASTITIS; DAIRY HERDS; BOVINE NEUTROPHILS FOLLOWING GROWTH; PERIPARTURIENT COWS; INTRAMAMMARY CHALLENGE; LOW SOMATIC-CELL COUNTS; TEAT DIP)  
 91-6647 001 (HISTOPHILUS OVIS HAEMOPHILUS SOMNUS INFECTION; CHRONIC LESIONS OF THROMBOEMBOLIC MENINGOENCEPHALOMYELITIS)  
 91-8074 001 (FLAGELLIN SYNTHESIS IN SALMONELLA-TYPHIMURIUM; TRYPTOPHAN-SPECIFIC PERMEASE OF ESCHERICHIA-COLI K-12; RFB REGION; TRP PROMOTER; MOLECULAR MECHANISM)

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<del>3</del>	5,849,305	U	U	12/15/1998	18	424/255.1		424/93.2 ...
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16	5,364,774	U	U	11/15/1994	22	435/320.1		435/235.1 ...
17	5,294,441	U	U	03/15/1994	38	424/200.1		424/235.1 ...
18	5,010,000	U	U	04/23/1991	14	435/69.1		435/69.51 ...
19	4,675,189	U	U	06/23/1987	11	424/490		424/426 ...

(FILE 'USPAT' ENTERED AT 14:19:00 ON 08

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L1	2309	S	HEMOLYTIC?
L2	922	S	ARO
L3	138	S	AROA
L4	0	S	L1 (P) (L2 OR L3)
L5	12	S	L1 AND (L2 OR L3)
L6	661	S	HAEMOLYT?
L7	7	S	L6 (P) (L2 OR L3)
L8	19	S	L5 OR L7